

PATENTIN THE CLAIMS

Please amend the claims as follows:

21. (Amended) The brake system of Claim 18, further comprising:
an axle of a vehicle;
a first wheel brake mounted on said axle;
a second wheel brake mounted on said axle;
a normal source of pressurized hydraulic brake fluid under the control of said
control unit that is adapted to selectively supply hydraulic brake fluid to said first
wheel brake and said second wheel brake;
a backup source of pressurized hydraulic brake fluid comprising at least a
portion of said brake system actuator and including a master cylinder;
a first backup fluid conduit extending between said master cylinder and said
first wheel brake to selectively provide fluid communication between said backup
source and said first wheel brake; and
a second backup fluid conduit extending between said master cylinder and said
second wheel brake to selectively provide fluid communication between said backup
source and said second wheel brake.

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22. (Amended) A hydraulic brake system for a vehicle comprising:
wheel brakes for four wheels, in which the wheels are distributed with a first and second wheel brake on a first vehicle axle and a third and a fourth wheel brake on a second vehicle axle;
a normal hydraulic energy source, having electrically controllable brake valve devices disposed between said energy source and said wheel brakes;
a brake pedal;
a sensor generating a first signal indicative of the position of said brake pedal;
a second sensor generating a second signal indicative of the force exerted by a driver on said brake pedal;
a master cylinder supplying two brake circuits, said master cylinder being actuated by said brake pedal and being intended for carrying out a backup brake operation by muscle-powered energy via said brake pedal, each brake circuit being in fluid communication with at least one of said wheel brakes;
a respective normally open isolation valve being disposed between said master cylinder and said wheel brakes in each of said two brake circuits, each of said isolation valves being switched into a closed position when said wheel brakes are supplied with fluid from said normal hydraulic energy source;
a respective fluid separator unit being interposed between each of said first and second wheel brakes of said first vehicle axle and an associated one of the electrically controllable brake valve devices, said first and second wheel brakes being connected to a respective one of said isolation valves associated with said two brake circuits of said master cylinder; and
a control unit for controlling said normal hydraulic energy source and said isolation valves, said control unit responding as a blended function of both said first signal and said second signal, with the contribution of the second signal relative to the first signal generally varying as a function of the first signal.

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23. (Amended) The hydraulic brake system of Claim 18, further comprising: wheel brakes for two wheels, in which the wheels are distributed at each end of a front vehicle axle;

a normal source of pressurized hydraulic brake fluid, having electrically controllable brake valve devices disposed between said normal source and said wheel brakes,

a master cylinder comprising at least a portion of said brake system actuator and supplying two brake circuits, said master cylinder being actuated by said brake pedal and being intended for carrying out a backup brake operation by muscle-powered energy via said brake pedal, each of said brake circuits being in fluid communication with a respective one of said wheel brakes; and

a respective normally open isolation valve being disposed between said master cylinder and said respective one of said wheel brakes in each brake circuit, each of said isolation valves being electrically switched into a closed position when said wheel brakes are supplied with fluid from said normal source, and wherein at least the electrically controllable brake valve devices are controlled by said control unit.

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25. (Amended) The hydraulic brake system of Claim 18, further comprising:
wheel brakes for two wheels, in which the wheels are distributed at each end of
a front vehicle axle;
a hydraulic fluid reservoir;
a normal source of pressurized hydraulic brake fluid, having a motor-driven
pump for pumping hydraulic brake fluid from said reservoir;
a master cylinder comprising at least a portion of said brake system actuator
and supplying two brake circuits, said master cylinder being actuated by said brake
pedal and being intended for carrying out a backup brake operation by muscle-
powered energy via said brake pedal, each of said brake circuits being in fluid
communication with a respective one of said wheel brakes; and
a respective electrically controllable brake valve device associated with each of
said wheel brakes, said electrically controllable brake valve devices being arranged to
block a respective flow path from said normal source to said wheel brakes and to open
a respective flow path from said wheel brakes to said reservoir when no braking is
being demanded.

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36. (Amended) The brake system of Claim 18, further comprising:
an axle of a vehicle;
a first wheel brake mounted on said axle;
a second wheel brake mounted on said axle;
a normal source of pressurized hydraulic brake fluid adapted to selectively supply hydraulic brake fluid to said first wheel brake and said second wheel brake;
a backup source of pressurized hydraulic brake fluid comprising at least a portion of said brake system actuator and including a master cylinder;
a first backup fluid conduit extending between said master cylinder and said first wheel brake to selectively provide fluid communication between said backup source and said first wheel brake;
a second backup fluid conduit extending between said master cylinder and said second wheel brake to selectively provide fluid communication between said backup source and said second wheel brake; and
a respective valve arrangement being disposed between said master cylinder and said wheel brakes in each of said first backup fluid conduit and said second backup fluid conduit, which enables said normal source of pressurized hydraulic brake fluid to selectively act upon said respective vehicle brakes via a portion of said backup source.

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37. (Amended) The hydraulic brake system of Claim 18, further comprising:
wheel brakes for four wheels, in which the wheels are distributed with a first
and second wheel brake on a first vehicle axle and a third and a fourth wheel brake on
a second vehicle axle;
a normal hydraulic energy source, having electrically controllable brake valve
devices disposed between said energy source and said wheel brakes;
a master cylinder comprising at least a portion of said brake system actuator
and supplying two brake circuits, said master cylinder being actuated by said brake
pedal and being intended for carrying out a backup brake operation by muscle-
powered energy via said brake pedal, each brake circuit being in fluid communication
with at least one of said wheel brakes;
a respective normally open isolation valve being disposed between said master
cylinder and said wheel brakes in each of said two brake circuits, each of said isolation
valves being switched into a closed position when said wheel brakes are supplied with
fluid from said normal hydraulic energy source, and wherein at least the electrically
controllable brake valve devices are controlled by a control unit; and
a respective fluid separator unit being interposed between each of said first and
second wheel brakes of said first vehicle axle and an associated one of the electrically
controllable brake valve devices, said first and second wheel brakes being connected
to a respective one of said isolation valves associated with said two brake circuits of
said master cylinder, said respective fluid separator units enabling said normal source
of pressurized hydraulic brake fluid to selectively act upon said respective vehicle
brakes via a portion of said backup source.

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38. (Amended) The hydraulic brake system of Claim 18, further comprising: wheel brakes for two wheels, in which the wheels are distributed at each end of a front vehicle axle;

a normal source of pressurized hydraulic brake fluid, having electrically controllable brake valve devices disposed between said normal source and said wheel brakes;

a master cylinder comprising at least a portion of said brake system actuator and supplying two brake circuits, said master cylinder being actuated by said brake pedal and being intended for carrying out a backup brake operation by muscle-powered energy via said brake pedal, each of said brake circuits being in fluid communication with a respective one of said wheel brakes; and

a respective normally open isolation valve being disposed between said master cylinder and said respective one of said wheel brakes in each brake circuit, each of said isolation valves being electrically switched into a closed position when said wheel brakes are supplied with fluid from said normal source, and at least the electrically controllable brake valve devices being controlled by said control unit in response to said demand signal, each of said isolation valves enabling said normal source of pressurized hydraulic brake fluid to selectively act upon said vehicle brake via a portion of said backup source.

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40. (Amended) The hydraulic brake system of Claim 18, further comprising: wheel brakes for two wheels, in which the wheels are distributed at each end of a front vehicle axle;

a hydraulic fluid reservoir;

a normal source of pressurized hydraulic brake fluid, having a motor-driven pump operated under the control of said control unit for pumping hydraulic brake fluid from said reservoir;

a master cylinder comprising at least a portion of said brake system actuator and supplying two brake circuits, said master cylinder being actuated by said brake pedal and being intended for carrying out a backup brake operation by muscle-powered energy via said brake pedal, each of said brake circuits being in fluid communication with a respective one of said wheel brakes; and

a respective electrically controllable brake valve device associated with each of said wheel brakes, said electrically controllable brake valve devices being under the control of said control unit and arranged to block a respective flow path from said normal source to said wheel brakes and to open a respective flow path from said wheel brakes to said reservoir when no braking is being demanded, said respective valve devices enabling said normal source of pressurized hydraulic brake fluid to selectively act upon said respective vehicle brakes via a portion of said backup source.

PATENTSTATUS OF CLAIMS AND EXPLANATION OF SUPPORT

Claims 1 through 20: Pending (and stand allowed in their original un-amended form).

Claim 21: Pending (amended for the first time in this Amendment). Claim 21 was amended to depend from Claim 18, and included additions to the normal and backup source claim elements to clarify the claim in light of the new dependent status. Support for the amendment can be found in at least Figs. 1 and 10 and in Cols. 5 to 6 of the Specification as filed.

Claim 22: Pending (amended for the first time in this Amendment). Claim 22 was amended from the previously presented version of Claim 22 as follows, where underlining indicates additions, and strike-through indicates deletions:

22. A hydraulic brake system for a vehicle comprising:
- wheel brakes for four wheels, in which the wheels are distributed with a first and second wheel brake on a first vehicle axle and a third and a fourth wheel brake on a second vehicle axle;
 - a normal hydraulic energy source, having electrically controllable brake valve devices disposed between said energy source and said wheel brakes;
 - a brake pedal;
 - a sensor generating a first signal indicative of the position of said brake pedal;
 - a second sensor generating a second signal indicative of the force exerted by a driver on said brake pedal;
 - ~~a first brake system sensor that is actuated by said brake pedal, for carrying out brake operations by operation of the electrically controllable brake valve devices;~~
 - a master cylinder supplying two brake circuits, said master cylinder being actuated by said brake pedal and being intended for carrying out a backup brake operation by muscle-powered energy via said brake pedal, each brake circuit being in fluid communication with at least one of said wheel brakes;

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a respective normally open isolation valve being disposed between said master cylinder and said wheel brakes in each of said two brake circuits, each of said isolation valves being switched into a closed position when said wheel brakes are supplied with fluid from said normal hydraulic energy source, ~~and wherein at least the electrically controllable brake valve devices are controlled by a control unit; and~~

a respective fluid separator unit being interposed between each of said first and second wheel brakes of said first vehicle axle and an associated one of the electrically controllable brake valve devices, said first and second wheel brakes being connected to a respective one of said isolation valves associated with said two brake circuits of said master cylinder; and a control unit for controlling said normal hydraulic energy source and said isolation valves, said control unit responding as a blended function of both said first signal and said second signal, with the contribution of the second signal relative to the first signal generally varying as a function of the first signal.

Support for this amendment is found in Cols. 5 to 6 of the Specification as filed.

Claim 23: Pending (amended for the first time in this Amendment). This claim was amended to depend from Claim 18, with the brake pedal, master cylinder and the normally open isolation valve claim elements amended to clarify the claim in light of the new dependent status. Support for these amendments can be found in at least Figs. 1 and 10 and in Cols. 5 to 6 of the Specification as filed.

Claim 24: Pending and un-amended.

Claim 25: Pending (amended for the first time in this Amendment). This claim was amended to depend from Claim 18, with the brake pedal and master cylinder claim elements amended to clarify the claim in light of the new dependent status. Support for these amendments can be found in at least Figs. 1 and 10 and in Cols. 5 to 6 of the Specification as filed.

Claims 26 through 35: Pending (and stand allowed in their original un-amended form).

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Claim 36: Pending (amended for the first time in this Amendment). This claim was amended to depend from Claim 18, with the claim elements relating to the backup source amended to clarify the claim in light of the new dependent status. Support for these amendments can be found in at least Figs. 1 and 10 and in Cols. 5 to 6 of the Specification as filed.

Claim 37: Pending (amended for the first time in this Amendment). This claim was amended to depend from Claim 18, with the brake pedal, first brake system sensor, and master cylinder claim elements amended to clarify the claim in light of the new dependent status. Support for these amendments can be found in at least Figs. 1 and 10 and in Cols. 5 to 6 of the Specification as filed.

Claim 38: Pending (amended for the first time in this Amendment). This claim was amended to depend from Claim 18, with the brake pedal, master cylinder and the normally open isolation valve claim elements amended to clarify the claim in light of the new dependent status. Support for these amendments can be found in at least Figs. 1 and 10 and in Cols. 5 to 6 of the Specification as filed.

Claim 39: Pending and un-amended.

Claim 40: Pending (amended for the first time in this Amendment). This claim was amended to depend from Claim 18, with the normal source, brake pedal, master cylinder, and the electrically controllable brake valve device claim elements amended to clarify the claim in light of the new dependent status. Support for these amendments can be found in at least Figs. 1 and 10 and in Cols. 5 to 6 of the Specification as filed.

REMARKS

This Amendment is filed in response to the outstanding Office Action, dated February 4, 2005. Reconsideration of the application, as amended, is respectfully requested.